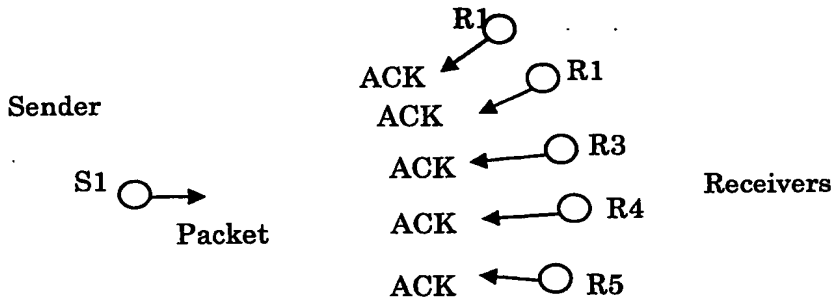


FIGURE 1

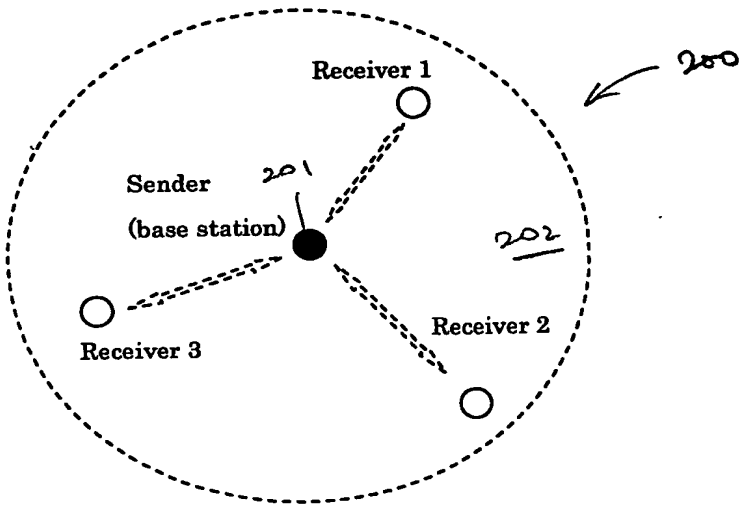


FIGURE 2

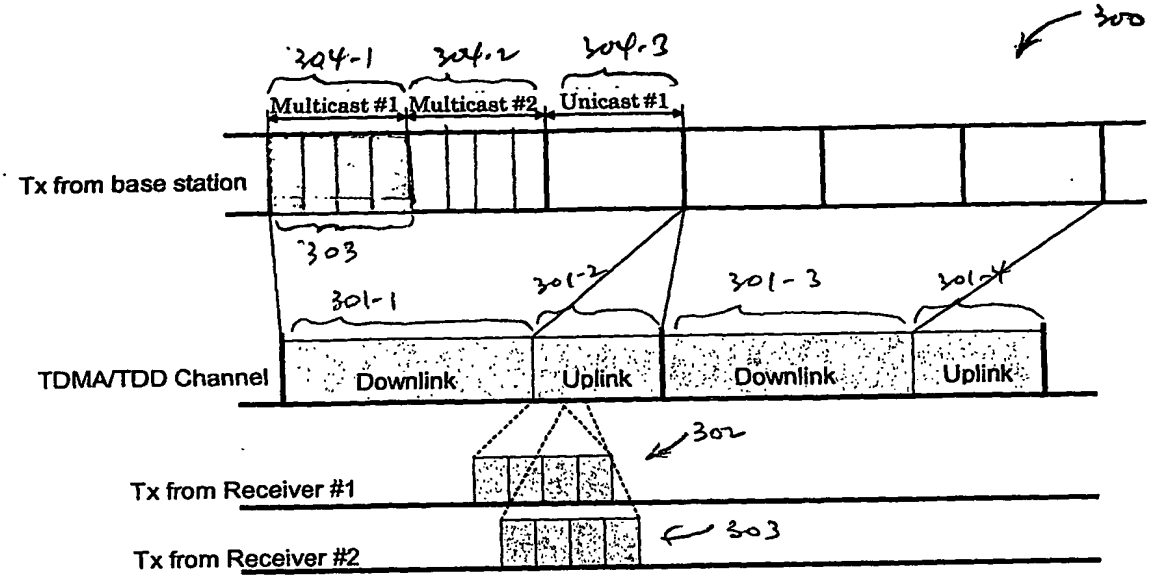


FIGURE 3

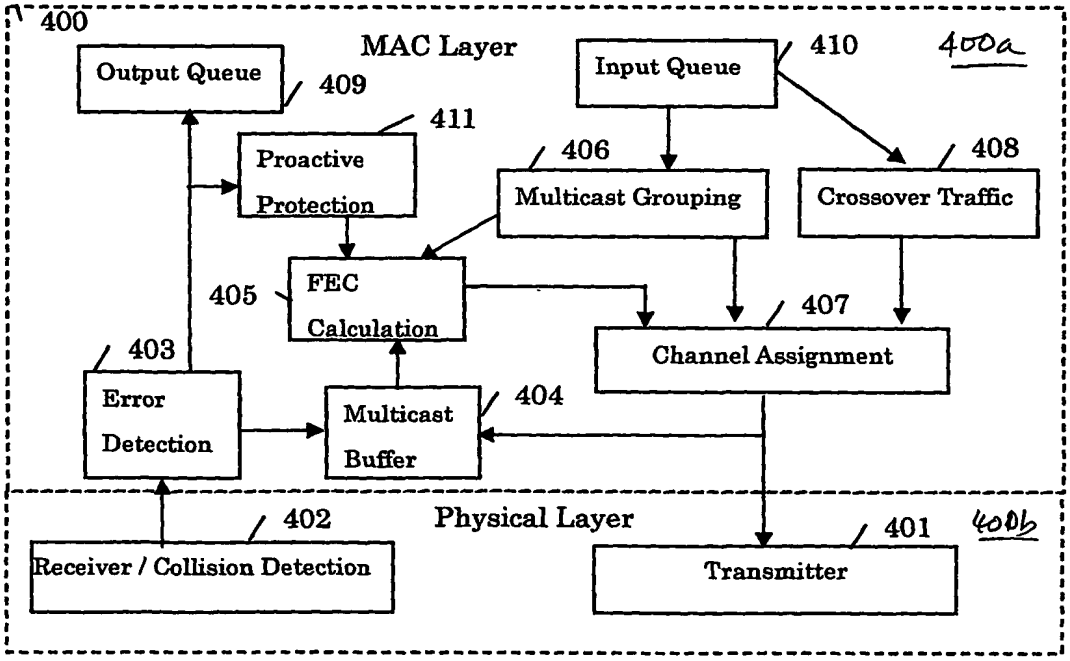


FIGURE 4

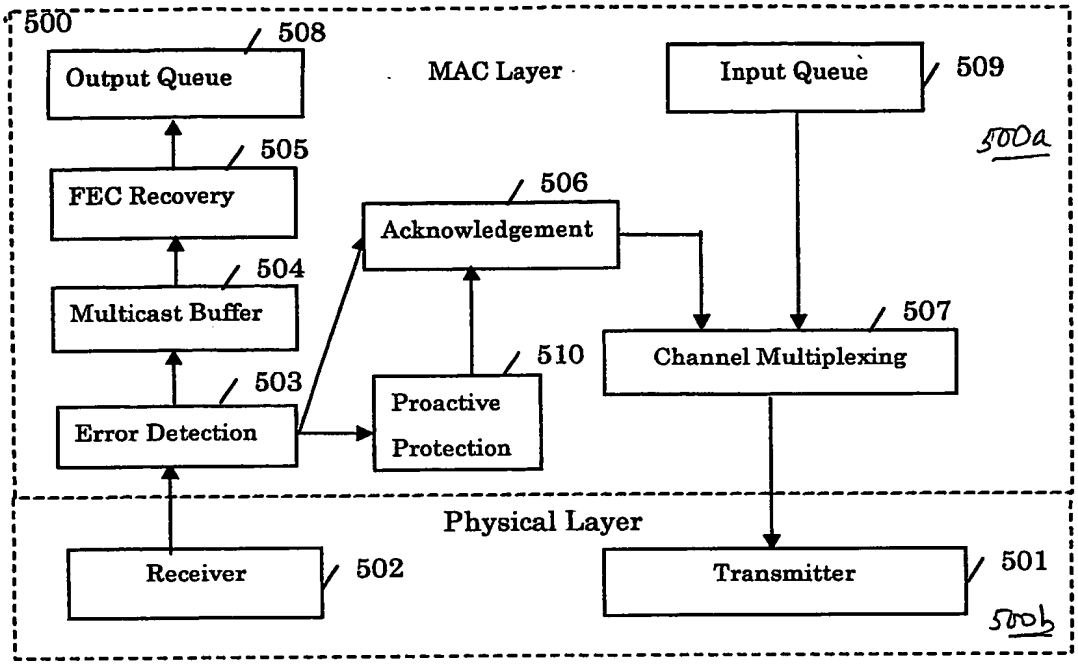


FIGURE 5

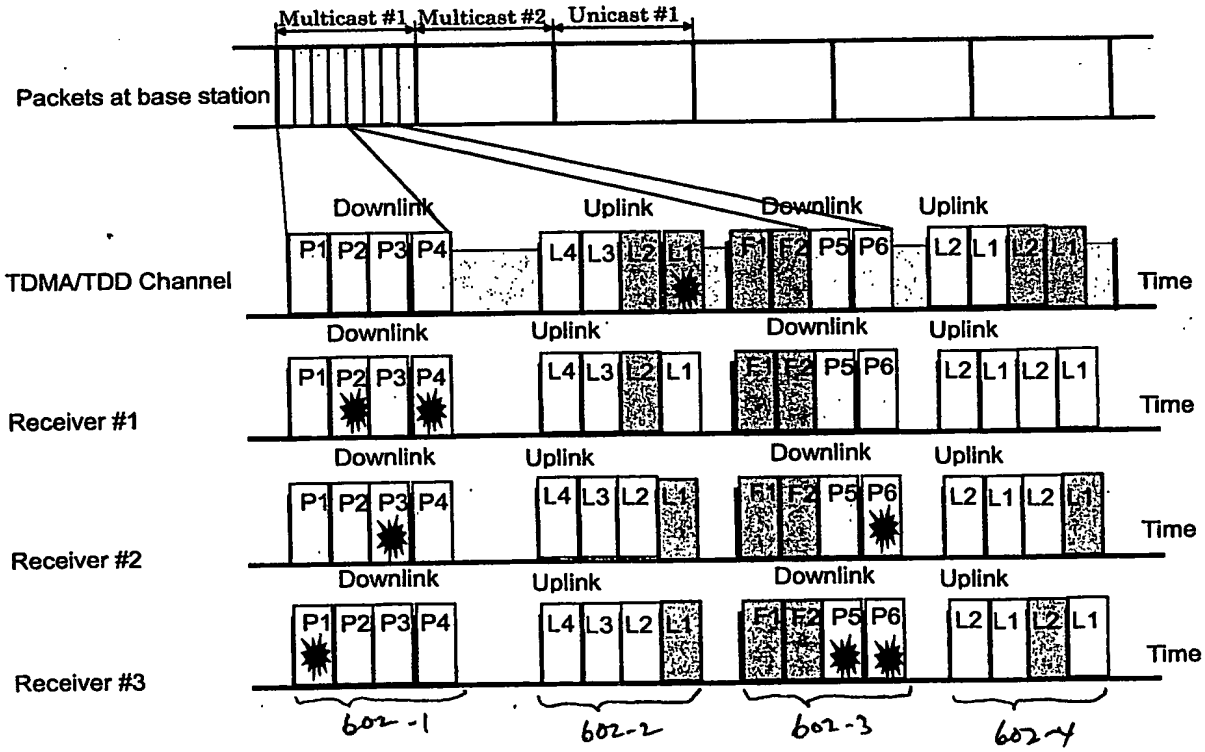


FIGURE 6

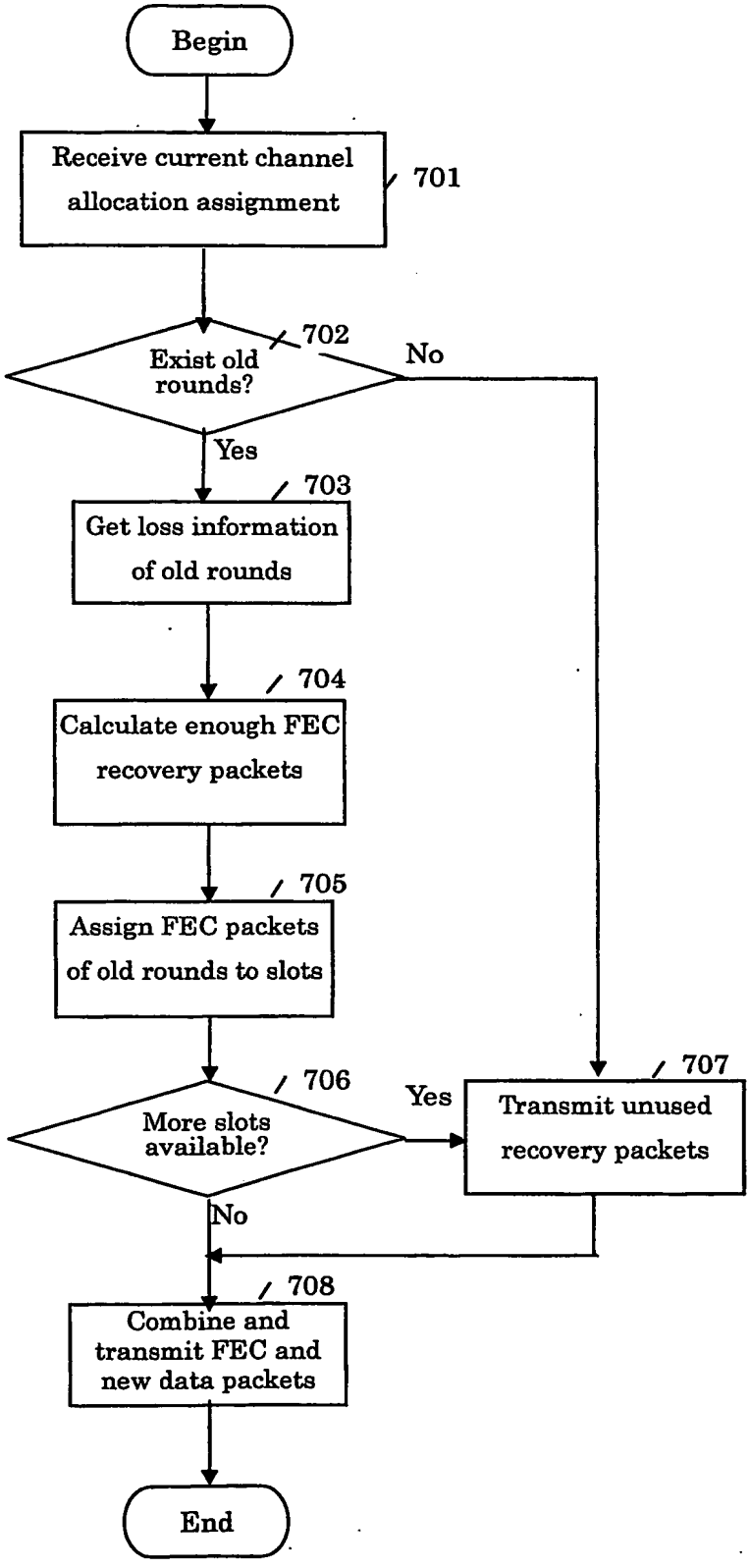
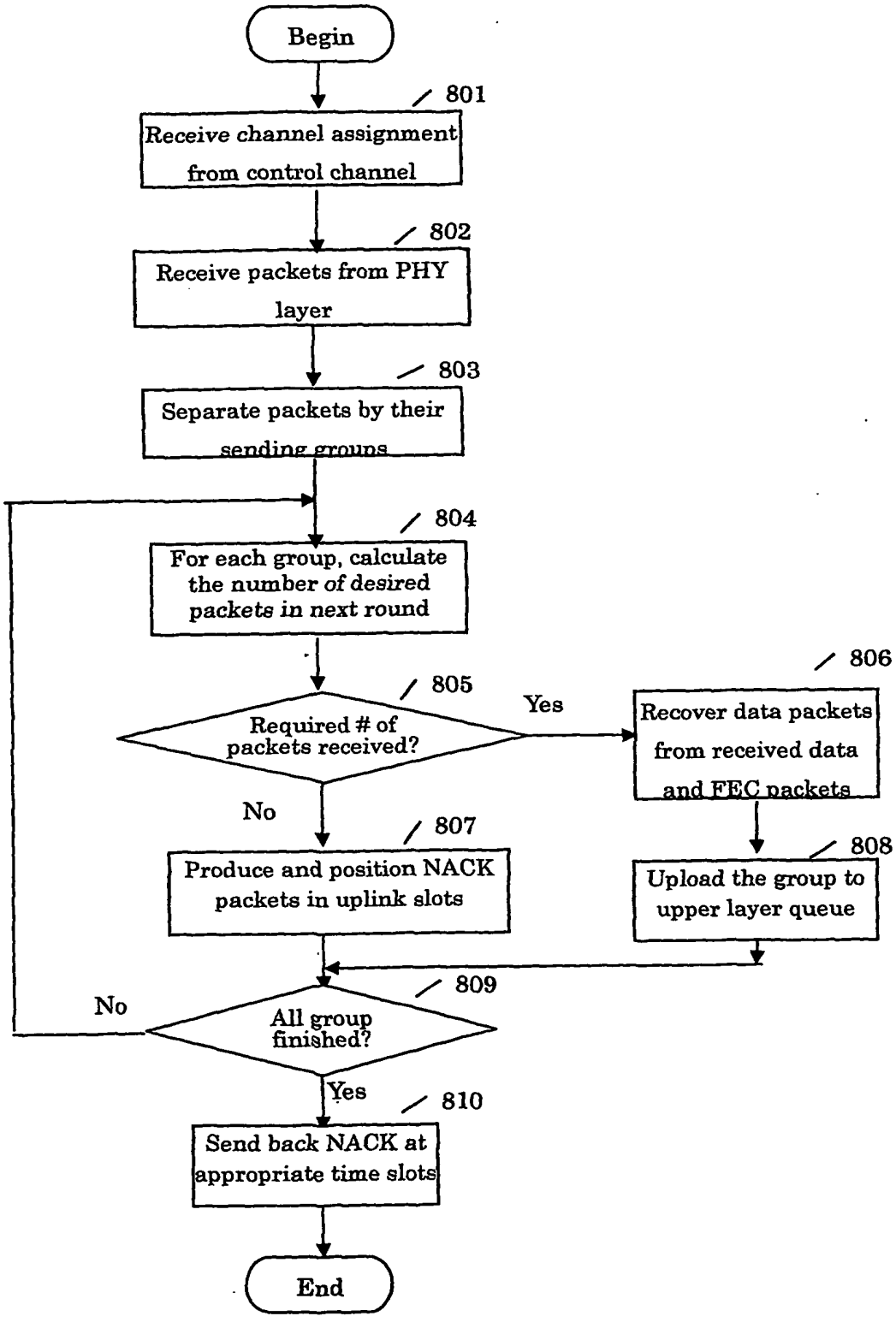

Begin
Receive current channel allocation assignment
701
Exist old rounds?
702
No
Yes
Get loss information of old rounds
703
Calculate enough FEC recovery packets
704
Assign FEC packets of old rounds to slots
705
More slots available?
706
Yes
Transmit unused recovery packets
707
No
Combine and transmit FEC and new data packets
708
End

FIGURE 7


Begin
801
Receive channel assignment from control channel
802
Receive packets from PHY layer
803
Separate packets by their sending groups
804
For each group, calculate the number of desired packets in next round
805
Required # of packets received?
Yes
806
Recover data packets from received data and FEC packets
No
807
Produce and position NACK packets in uplink slots
808
Upload the group to upper layer queue
809
All group finished?
No
Yes
810
Send back NACK at appropriate time slots
End

Fauve 8

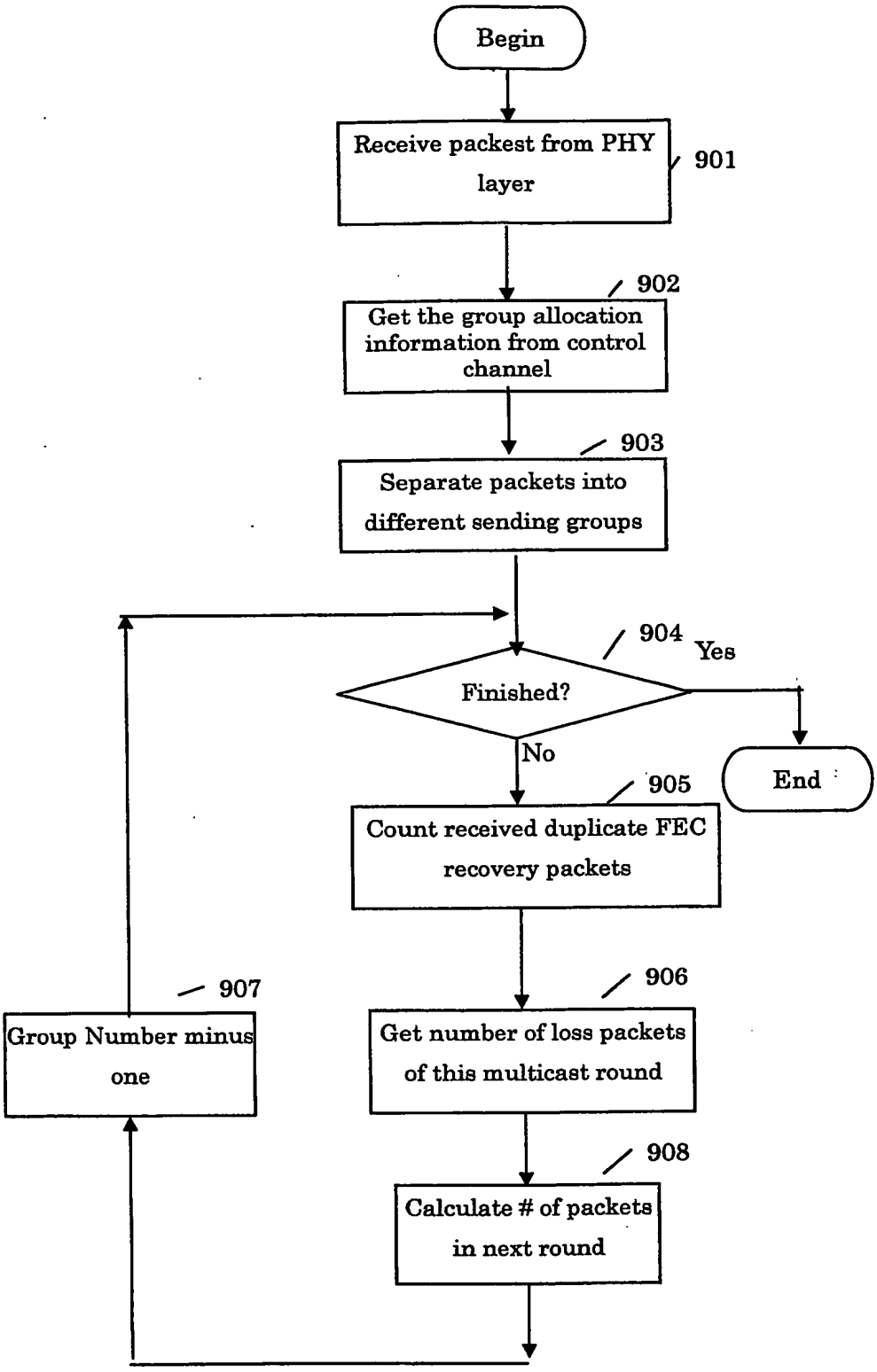

Begin
Receive packest from PHY layer
901
902
Get the group allocation information from control channel
903
Separate packets into different sending groups
904
Finished?
Yes
No
End
905
Count received duplicate FEC recovery packets
906
Get number of loss packets of this multicast round
907
Group Number minus one
908
Calculate # of packets in next round

FIGURE 9

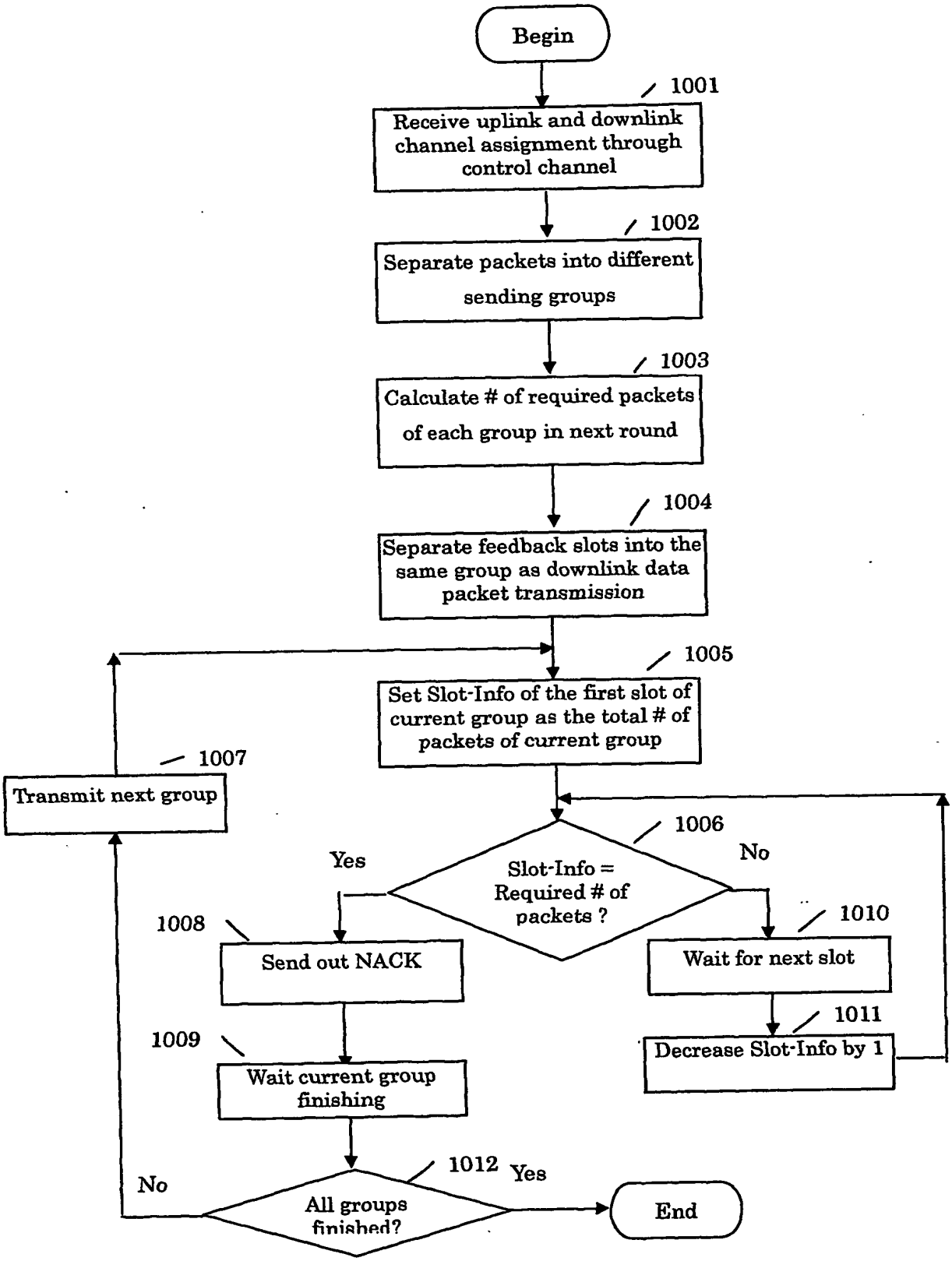

Begin
1001
Receive uplink and downlink channel assignment through control channel
1002
Separate packets into different sending groups
1003
Calculate # of required packets of each group in next round
1004
Separate feedback slots into the same group as downlink data packet transmission
1005
Set Slot-Info of the first slot of current group as the total # of packets of current group
1006
Slot-Info = Required # of packets ?
Yes
No
1007
Transmit next group
1008
Send out NACK
1009
Wait current group finishing
1010
Wait for next slot
1011
Decrease Slot-Info by 1
1012
All groups finished?
No
Yes
End

FIGURE 10

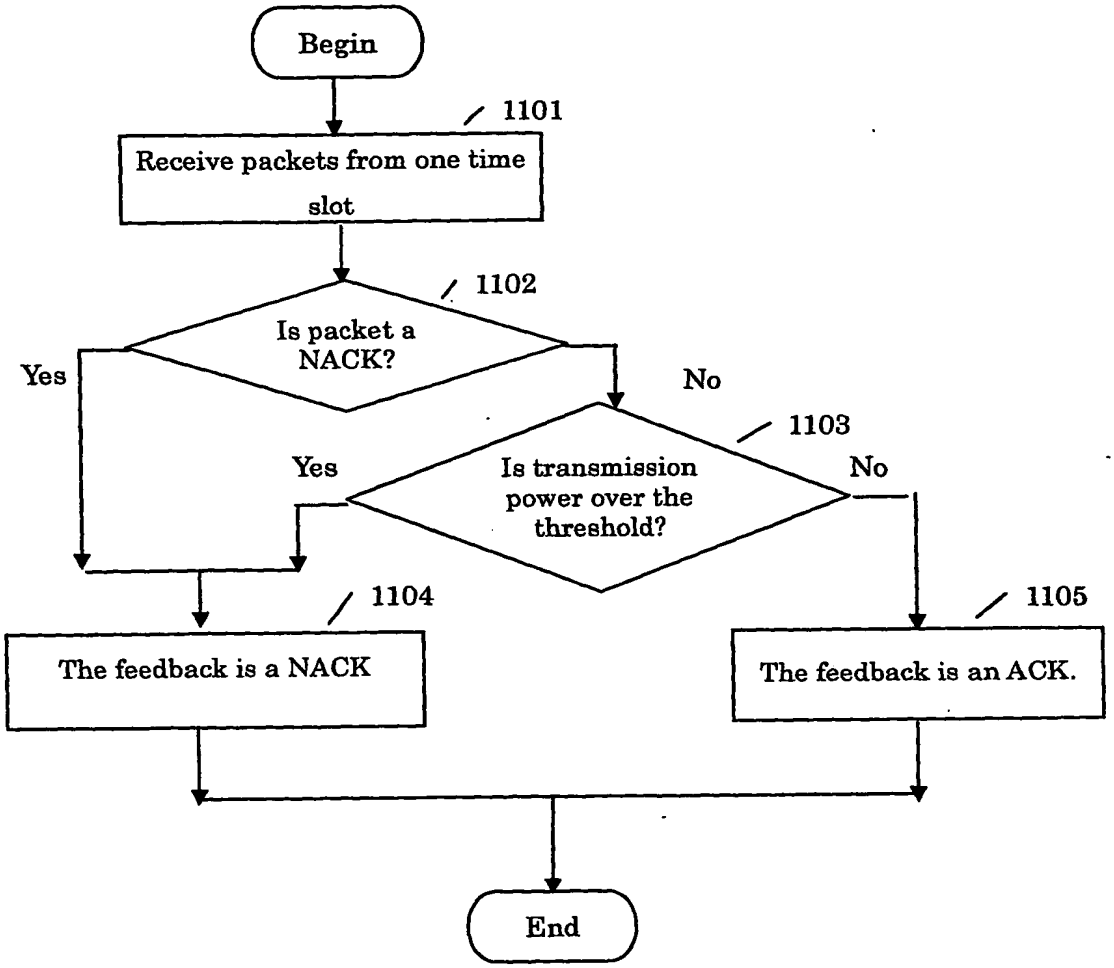

Begin
1101
Receive packets from one time slot
1102
Is packet a NACK?
Yes
No
1103
Is transmission power over the threshold?
Yes
No
1104
The feedback is a NACK
1105
The feedback is an ACK.
End

FIGURE 11

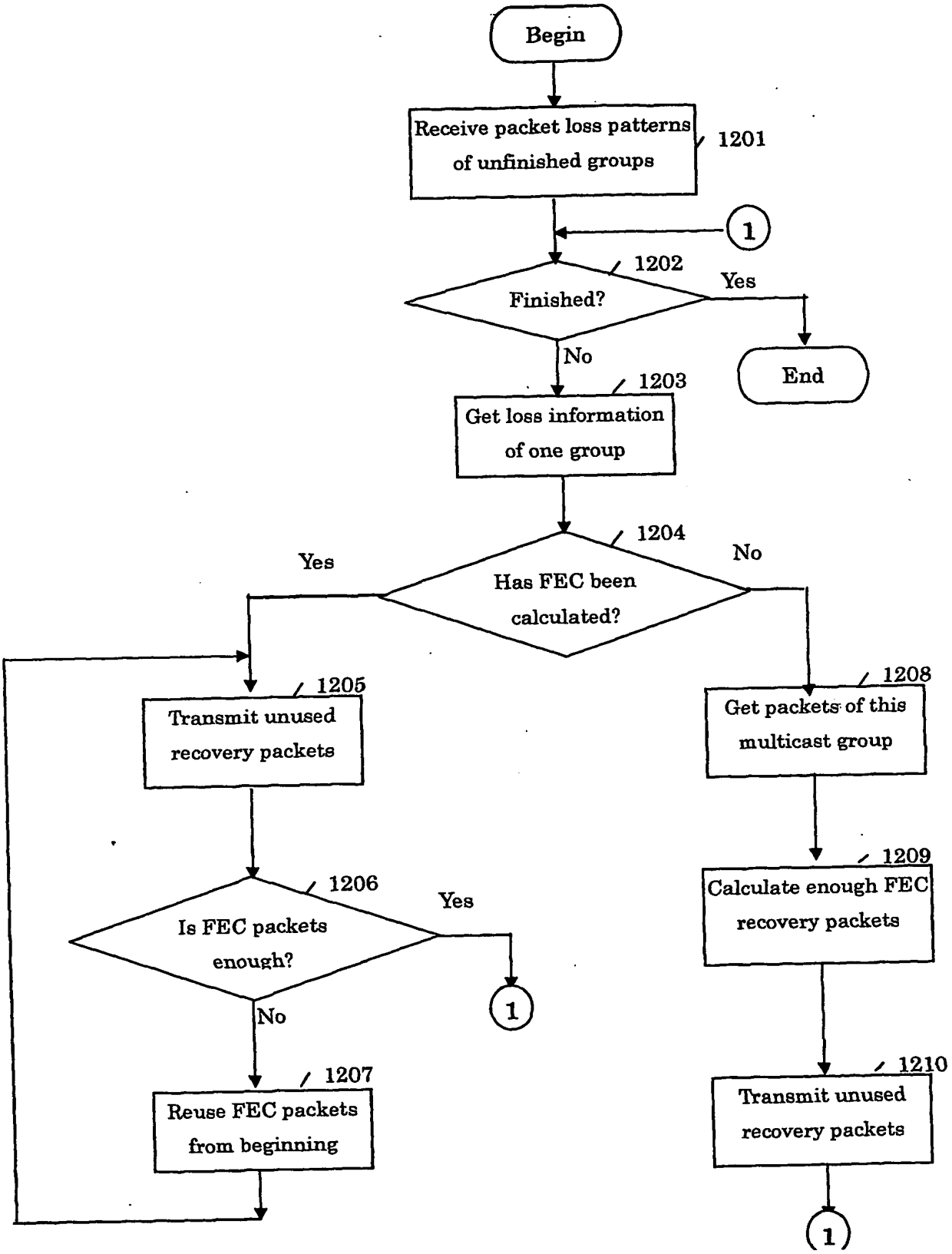

Begin
Receive packet loss patterns of unfinished groups
1201
1
1202
Finished?
Yes
End
No
1203
Get loss information of one group
1204
Has FEC been calculated?
Yes
No
1205
Transmit unused recovery packets
1208
Get packets of this multicast group
1206
Is FEC packets enough?
Yes
1
No
1209
Calculate enough FEC recovery packets
1207
Reuse FEC packets from beginning
1210
Transmit unused recovery packets
1

FIGURE 12

1300

Destination Address 1301a	Source Address 1301b
Packet Type 1302	Sequence Number 1303
Beginning Sequence Number 1304a	Ending Sequence Number 1304b
Payload 1305	

FIGURE 13